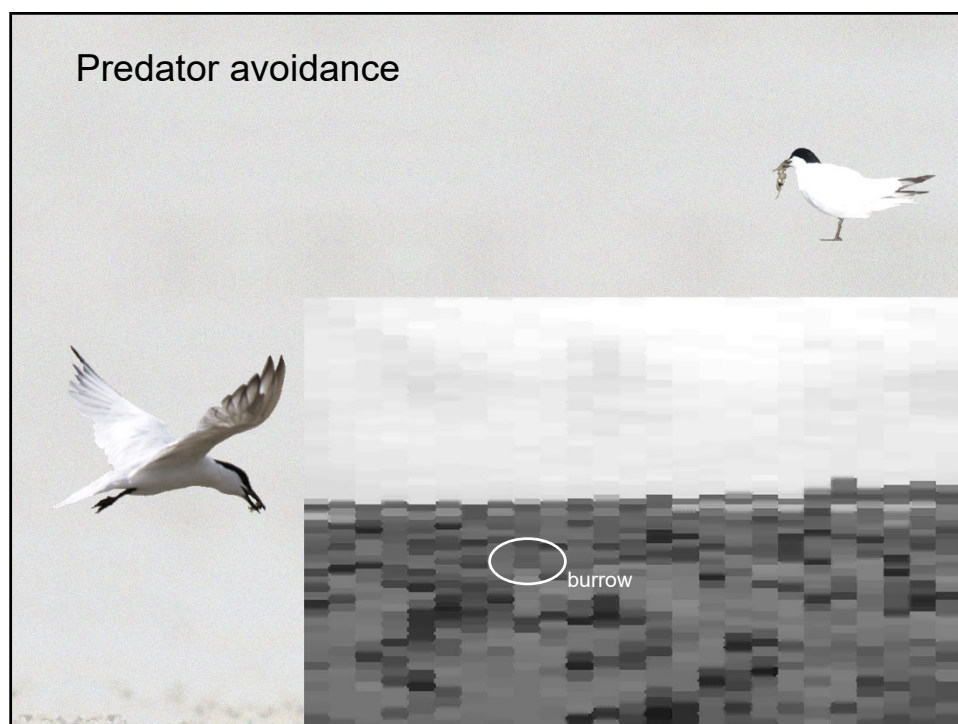
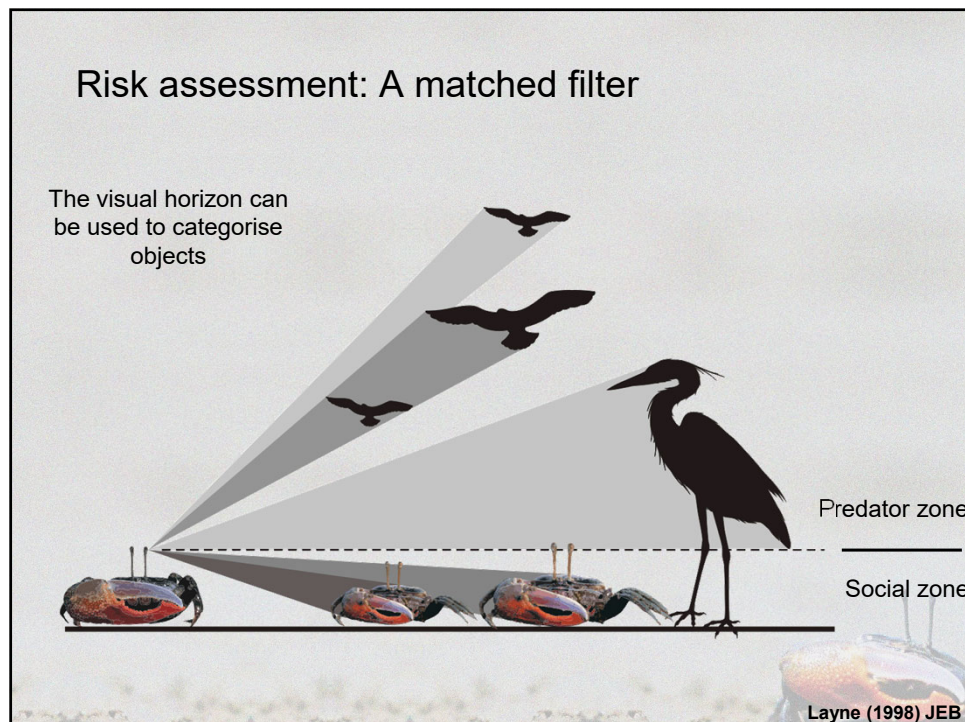


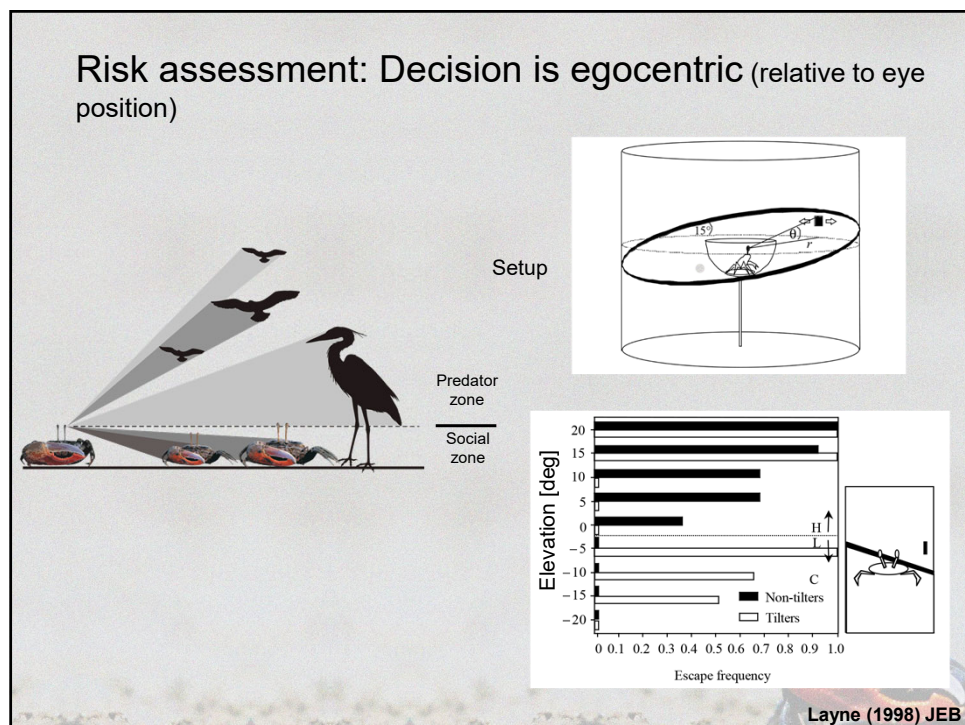
3



4



5



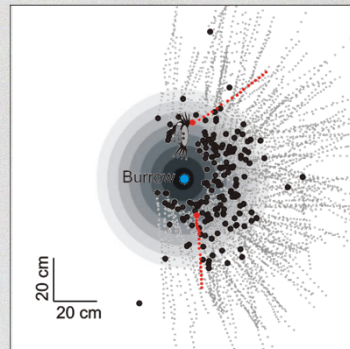
6

Burrow surveillance:

Crabs can measure distance between intruder and burrow

Crabs respond to intruders when they reached a certain distance from the burrow – not themselves

Successful burrow defence is crucial for survival

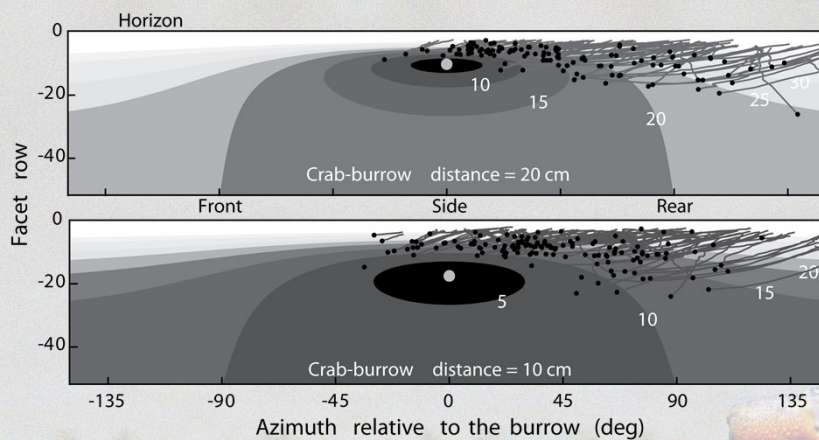


Hemmi & Zeil (2003) JEB

7

A neural hypothesis - Retinal map of intruder-burrow distances

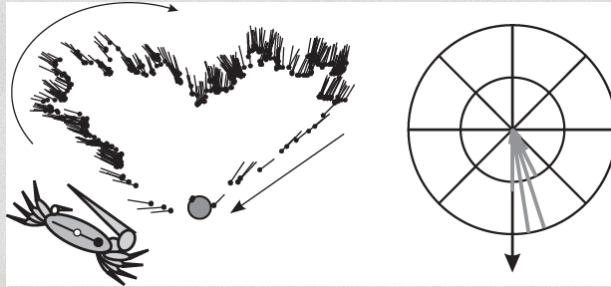
(Assumes crabs keep burrow in the same part of their visual field at all times!)



Hemmi & Zeil (2003) Nature

8

Aligning their body axis with their refuge & the eye with the flat environment:



- Centres the burrow on the most sensitive part of the eye
- Allows for simple neural computations

Hemmi & Zeil (2003) Nature